

Timeline for Cassini Rev 68 RSS Saturn Atmospheric Occultation & Gravity Field Observation on May 17/18, 2008 (DOY 138/139)

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	ERT UTC OWLT = 1:16:16	SCET	PDT ERT-7hrs 7:00:00	Comments
DSS-55 Start Precal	15:50:00	14:33:44	8:50:00	
DSS-55 Begin of Track	17:20:00	16:03:44	10:20:00	
DSS-55 Transmitter ON	18:19:00	17:02:44	11:19:00	
Begin RSS3a Op-Mode	18:45:10	17:28:54	11:45:10	
DSS-55 Enable Monopulse	TBD			
DSS-25 Start Precal	18:50:00	17:33:44	11:50:00	
DSS-26 Start Precal	19:20:00	18:03:44	12:20:00	
DSS-55 Transmitter OFF	20:04:00	18:47:44	13:04:00	
DSS-25 & 26 Begin of Track	20:20:00	19:03:44	13:20:00	
DSS-25 & 26 Enable Monopulse	TBD			
Start inbound gravity pass	20:51:16	19:35:00	13:51:16	2-way at DSS-55, 3-way at DSS-25 and DSS-26
DSS-15 Start Precal	21:00:00	19:43:44	14:00:00	
DSS-63 Start Precal	21:25:00	20:08:44	14:25:00	
DSS-63 Begin of Track	22:00:00	20:43:44	15:00:00	Cassini HGA is Earth pointed; detectable S/X/Ka downlink
DSS-15: Begin of Track	22:00:00	20:43:44	15:00:00	Cassini HGA is Earth pointed; detectable S/X/Ka downlink
End inbound gravity pass	22:36:09	21:19:53	15:36:09	
TWNC ON/ RNG OFF	22:36:09	21:19:53	15:36:09	1-way X/S/Ka downlink
Start Live Moveable Block (LMB)	22:36:16	21:20:00	15:36:16	
TLM OFF	22:36:19	21:20:03	15:36:19	X-band full strength
DSS-25 Transmitter ON	22:40:00	21:23:44	15:40:00	
DSS-25 & 26 Disable Monopulse	TBD			Real-Time decision to leave or remove the offset
Start Free-Space Baseline	22:58:15	21:41:59	15:58:15	PC/N0 (X70, X&Ka34, S70) = ~55, 49, 49, and 43 dB
Top of the ionosphere (@~68,000 km)	23:12:47	21:56:31	16:12:47	Ionosphere primarily affects signal frequency
Troposphere in (~0.1° BA)	23:24:28	22:08:12	16:24:28	S/X/Ka signal intensities start to drop and scintillate
Troposphere observed mixed with he rings				

Likely loss of Ka-band signal (~1.15° BA)	23:29:33	22:13:17	16:29:33	Approximate time; through the rings
Likely loss of X-band signal (~1.35° BA)	23:30:33	22:14:17	16:30:33	Approximate time; through the rings
Likely loss of S-band signal (~1.55° BA)	23:31:34	22:15:18	16:31:34	Approximate time; through the rings
Cassini is Behind Saturn				No S/X/Ka downlink detectable
Weak S-band signal (~1.55° BA)	0:28:05	23:11:49	17:28:05	Weak but increasing and scintillating S-band signal
Weak X-band signal (~1.35° BA)	0:29:08	23:12:52	17:29:08	Weak but increasing and scintillating X-band signal
Weak Ka-band signal (~1.15° BA)	0:30:09	23:13:53	17:30:09	Weak but increasing and scintillating Ka-band signal
Troposphere Out (~0.1° BA)	0:35:13	23:18:57	17:35:13	PC/N0 (X70, X&Ka34, S70) = ~55, 49, 49, and 43 dB
DSS-55 End of Track	0:50:00	23:33:44	17:50:00	
Ionosphere Out (~68,000 km)	0:51:46	23:35:54	17:51:46	Ionosphere primarily affects signal frequency
DSS-63 End of Track	1:00:00	23:43:44	18:00:00	
End of Free-Space Baseline	1:04:15	23:47:59	18:04:15	
DSS-55 Postcal	1:05:00	23:48:44	18:05:00	
End of Live Moveable Block (LMB)	1:12:16	23:56:00	18:12:16	
TLM ON	1:12:17	23:56:01	18:12:17	
TWNC OFF/ RNG ON	1:12:21	23:56:05	18:12:21	
Start outbound gravity pass	1:12:21	23:56:05	18:12:21	2-way at DSS-25, 3-way at DSS-26
DSS-25 & 26 Enable Monopulse	TBD			
DSS-63 Postcal	1:15:00	23:58:44	18:15:00	
DSS-15 End of Track	1:45:00	0:28:44	18:45:00	
DSS-15 Postcal	2:00:00	0:43:44	19:00:00	
DSS-25 Transmitter OFF	2:49:00	1:32:44	19:49:00	
End outbound gravity pass	5:21:16	4:05:00	22:21:16	
End of RSS3a op-mode	5:21:16	4:05:00	22:21:16	Loss of S and Ka-band downlink
DSS-25 & 26 End of Track	6:00:00	4:43:44	23:00:00	
DSS-25 & 26 Postcal	6:15:00	4:58:44	23:15:00	

Indicates DSS-15, 25, & 26 Related Activities

Indicates DSS-55 & 63 Related Activities

All times are based on the Rev 68 Live Update OD on May 12, 2008